

Title (en)  
DRIVE TRANSMISSION APPARATUS

Publication  
**EP 0248563 B1 19900704 (EN)**

Application  
**EP 87304484 A 19870520**

Priority  
JP 13049686 A 19860604

Abstract (en)  
[origin: EP0248563A2] A drive transmission apparatus, such as a gearbox, having a reduced width is disclosed. The apparatus comprises: a straight input shaft (1); a group of large and small gears (2) rigidly mounted on and adapted to turn with the input shaft; a straight transmission shaft (4) installed near and parallel to the input shaft; a group of large and small gears (3) rotatably mounted on the transmission shaft, the sizes of the gears (3) being in opposite relationship with those of the gears (2) on the input shaft and being in mesh therewith; a gear (7) rigidly mounted on the transmission shaft; a back or reverse gear (23) rotatably mounted on the transmission shaft; partition rings (35) installed between each of the gears on the transmission shaft with no gaps between the partition rings and the gears; engagement grooves (10, 11, 25) formed in the internal surfaces of the gears on the transmission shaft, the engagement grooves being separated from each other by the partition rings; an axially extending speed change groove (8) formed in the surface of the transmission shaft; and an axially movable speed change claw (9) installed in the speed change groove; whereby the speed change claw, when it engages with an engagement groove (10 or 25) formed in the rotatable gears (3, 23) drives the transmission shaft and, when it engages with the engagement groove formed in the rigidly mounted gear (7), i.e. in the neutral position, does not drive the transmission shaft. A gear (34) rigidly mounted on an intermediate shaft (5) which is driven by the gear (7), is in permanent engagement with a gear (29) which drives at least one running shaft (20) through a direction clutch (31).

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